

REMARKS:

The last Office Action issued in the above-identified application on October 20, 2005 has been carefully considered.

It has been noted that the Examiner had indicated that claims 6 and 16, rather than being generic, are directed to the non-elected embodiment contained in Group II. Given the fact that presence of allowable subject matter in the present application of claims to the generic invention on their merits has been indicated by the Examiner, this contention is not being disputed here.

With respect to the specification, the Examiner had indicated that the Abstract needs to be shortened to no more than 150 words. Such an abstract is enclosed hereto both in its "clean" form (the aforementioned Attachment C) and in its form that specifies, in the bracket-and-underlining fashion (marked ad Attachment D) the differences between the previous and currently presented versions of the Abstract. It is believed that this presentation and its contents should meet with the Examiner's approval because it is in full compliance with the relevant statutory provisions.

The drawings have been objected to as allegedly failing to contain the reference character D2. However, as circled in red in the accompanying copy of the drawing that is in the undersigned attorney's possession (marked as Attachment F), and as evidenced by the accompanying copy of the relevant sheet from the published U.S. patent application (viz. Attachment G), that particular character was contained in the original drawings and more particularly in Fig. 12 thereof (which is one of those chosen in the response to the election requirement for Group II). Nevertheless, for the event that the sheet of drawing contained in the Examiner's file differs in this respect from the drawing in the attorney's possession (albeit there is no reason to suspect that this is the case), there is enclosed hereto (as Attachment E), an unmarked copy of the relevant sheet of drawing (labeled 6/8). In this unlikely event, the Examiner is respectfully requested to treat Attachment F as an indication of a proposed change to Fig. 12, and Attachment E as a substitute sheet of the drawing. If such a substitute drawing is not acceptable to the Office drawing, the Examiner is hereby requested to so indicate, possibly by calling the undersigned attorney on the telephone to expedite matters, and an effort will be made to present a formally acceptable copy of the drawing as soon as possible.

It has been noted that, as already mentioned above, all claims have been found to be allowable on their merits. Yet, such claims have been rejected under the various provisions of 35 USC 112. These issues will now be addressed individually both as to the reasons the Examiner had stated as to why these various objections have been made and to the actions (if any) that have been taken in good faith to overcome these objections.

First of all, it is believed that the rejection of the claims on lack of enablement in view of the allegedly missing reference character D2 from the drawing, is either moot because, as mentioned before, the reference character either always was and currently still is present (at the location indicated in Attachment F) in the Patent and Trademark office version of the drawing, or taken care of by the presentation of the drawing sheet marked as Attachment E and its acceptance, requested above, as a substitute sheet of the drawing.

As to the Examiner's objection to all claims as failing to particularly point out and distinctly claim the subject matter that the applicant considers to be the invention, it is to be conceded that the Examiner was correct in asserting that the claims as to which specific objections were mentioned (basically, several of the claims 1 to 10) were literal translations from a foreign document (i.e. the German-language text of the PCT application). To avoid this problem, such claims are being cancelled hereby.


However, as to the remaining claims 11 to 20, it is to be mentioned that they have already been extensively reformulated and rearranged prior to filing with a view toward pro-actively avoiding this particular rejection. As a matter of fact, the blanket dismissal of these claims as "having many of the same problems" gives hardly any guidance as to what the Examiner considers to be objectionable in these claims.

Nevertheless, an attempt has been made to deal with such unfathomable objections. This attempt is contained in its "clean" form on attachment A, and in its bracket-and-underlining form highlighting the proposed changes in Attachment B. It is respectfully requested that the Examiner consider the accompanying claims 11 to 20 (whether they have been reformulated or not) in their entirety to satisfy herself that they comply with 35 USC 112, or, should that not be the case, inform the undersigned attorney with particularity in what respect they are still not in compliance. In this regard, the

Examiner is cordially invited to contact the undersigned attorney over the telephone at (860) 675-9689 to establish if such changes could be accomplished by mutual agreement by an Examiner's Amendment so as not to unduly delay the passage of this application to issue.

In view of the indicated allowability of the claims on their merits and the presumed acceptance of the changes proposed herein by the Examiner as fully dealing with all the raised issues, issuance of an official Notice of Allowability and/or Allowance is earnestly solicited.

Respectfully submitted



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lock, especially for motor vehicles, for operating an output member, comprising a housing bounding an inner cylindrical cavity; a cylindrical core with a key channel and a plurality of transverse tumbler passages received in said cylindrical cavity for turning and axial displacement between respective engagement and disengagement positions thereof; means for coupling said cylindrical core with the output member when said cylindrical core is being turned in said engagement position thereof by the appropriate key and for uncoupling said cylindrical core from the output member when said cylinder core is turned by means of an inappropriate key or forcibly by a foreign body; means including respective ribs for bounding a plurality of through-turnable annular grooves that open into said cylindrical inner cavity of said housing; and means for interrupting at least one of said ribs that delimits the respective one of said adjacent through-turnable groove at that axial side thereof that lies opposite to the direction of axial displacement of said cylindrical core toward said disengagement position thereof from the output member to form at least one blocking groove, said interrupting means including blocking groove lateral surfaces that diverge in said direction of axial displacement of said cylindrical core toward said disengagement position thereof; and a plurality of spring-loaded tumblers movably received in said tumbler passages and including respective blocking projections at least one of which protrudes into said blocking groove of said housing when no appropriate key is fully inserted into said key channel and does not protrude into said blocking groove when the appropriate key is fully inserted.

12. The cylinder lock according to claim 11, wherein said housing is composed of two housing halves that are rigidly connected with one another.
13. The cylinder lock according to claim 11, and further comprising means for defining at least one support ring groove opening into said inner cylindrical cavity of said housing; and wherein said cylindrical core includes an outer collar received in said support ring groove with an axial leeway that at least corresponds to a distance of the axial displacement that is necessary for the disengagement of said coupling means.

14. The cylinder lock according to claim 11, wherein said housing includes an additional blocking groove situated at 180° with respect to said one blocking groove, said tumblers being associated with one another in respective pairs such that each of said tumblers of each of said pairs cooperates with a different one of said blocking grooves.
15. (Amended) The cylinder lock according to claim [1] 11, wherein said blocking groove is symmetrical relative to a symmetry plane with said lateral surfaces thereof being constituted by planar facets each of which encloses the same acute angle with said symmetry plane.
16. (Amended) The cylinder lock according to claim 11, wherein said coupling means includes an entraining member having first coupling elements; wherein said cylindrical core includes an axial extension that is provided with second coupling elements and a first axial abutment which unequivocally determines said engagement position of said first coupling elements when in engagement with said second coupling elements of said axial extension; and wherein said cylinder core includes a second axial abutment which unequivocally determines said disengagement position of said first coupling elements of said entraining member when out of engagement with said second coupling elements of said axial extension.
17. The cylinder lock according to claim 16, wherein said core has an inner offset surface; wherein said extension includes an annular collar and said second coupling elements are constituted by means for defining a first radial recess and by means for defining an oppositely located second radial recess in said annular collar; wherein an annular groove is formed between said annular collar and said inner offset surface, a first annular lateral surface of which that faces toward the inner offset surface constitutes the second axial abutment, and wherein said entraining member includes inner radial projections constituting said first coupling.

18. (Amended) The cylinder lock according to claim 17, wherein said axial extension has a diameter at least behind the annular collar that is greater than a bottom diameter of said annular groove; wherein said radial projections of said entraining member have concave end faces that contact the bottom of the annular groove; and wherein said first radial recess is recessed into said axial extension at least to the bottom of the annular groove so that a second annular groove lateral surface of the latter that faces toward the output member constitutes the first axial abutment, while said second radial recess is recessed into said axial extension below the bottom of the annular groove and is terminated from one side at the first annular groove lateral surface, while it merges in the opposite direction into a second slip-on groove the bottom of which is spaced from an oppositely situated surface of the axial extension at the maximum by a distance which is equal to the diameter of the bottom of the annular groove.
19. The cylinder lock according the claim 17, wherein the diameter of the axial extension behind the annular collar is at most equal to the diameter of said annular groove; and further comprising a securing member mounted on said axial extension behind said annular collar without any leeway and having an end face constituting said first axial abutment.
20. The cylinder lock according to claim 17, wherein said axial extension has a blind bore; and further comprising a return spring accommodated in said blind bore

A cylinder lock, especially for motor vehicles, for operating an output member, comprising a housing bounding an inner cylindrical cavity; a [cylinder] cylindrical core with a key channel and a plurality of transverse tumbler passages received in said cylindrical cavity for turning and axial displacement between respective engagement and disengagement positions thereof [and having a key channel and a plurality of transverse tumbler passages]; means for coupling said cylindrical core with the output member when said cylindrical core is being turned in said engagement position thereof by the appropriate key and for uncoupling said cylindrical core from the output member when said cylinder core is turned by means of an inappropriate key or forcibly by a foreign body; means including respective ribs for bounding a plurality of through-turnable annular grooves that open into said cylindrical inner cavity of said housing; and means for interrupting at least one of said ribs that delimits the respective one of said adjacent through-turnable groove at that axial side thereof that lies opposite to the direction of [a disengagement] axial displacement of said cylindrical core toward said disengagement position thereof from the output member to form at least one blocking groove, said interrupting means including blocking groove lateral surfaces that diverge in said direction of axial displacement of said cylindrical core toward said disengagement position thereof; and a plurality of spring-loaded tumblers movably received in said tumbler passages and including respective blocking projections at least one of which protrudes into said blocking groove of said housing when no appropriate key is fully inserted into said key channel and [which do] does not [extend beyond the periphery of said cylindrical core] protrude into said blocking groove when the appropriate key is fully inserted.

12. The cylinder lock according to claim 11, wherein said housing is composed of two housing halves that are rigidly connected with one another.
13. The cylinder lock according to claim 11, and further comprising means for defining at least one support ring groove opening into said inner cylindrical cavity of said housing; and wherein said cylindrical core includes an outer collar received in said

support ring groove with an axial leeway that at least corresponds to a distance of the axial displacement that is necessary for the disengagement of said coupling means.

14. The cylinder lock according to claim 11, wherein said housing includes an additional blocking groove situated at 180° with respect to said one blocking groove, said tumblers being associated with one another in respective pairs such that each of said tumblers of each of said pairs cooperates with a different one of said blocking grooves.
15. (Amended) The cylinder lock according to claim [1] 11, wherein said blocking groove is symmetrical relative to a symmetry plane with said lateral surfaces thereof [are] being constituted by planar facets [that enclose] each of which encloses the same acute angle with [a] said symmetry plane[of said one blocking groove.].
16. (Amended) The cylinder lock according to claim 11, wherein said coupling means includes an entraining member having first coupling elements; wherein said cylindrical core includes an axial extension that is provided with second coupling elements and a first axial abutment which unequivocally determines [the] said engagement position of said first coupling elements when in engagement with said second coupling elements of said axial extension; and wherein said cylinder core includes a second axial abutment which unequivocally determines [the] said disengagement position of said first coupling elements of said entraining member when out of engagement with said second coupling elements of said axial extension.
17. The cylinder lock according to claim 16, wherein said core has an inner offset surface; wherein said extension includes an annular collar and said second coupling elements are constituted by means for defining a first radial recess and by means for defining an oppositely located second radial recess in said annular collar; wherein an annular groove is formed between said annular collar and said inner offset surface, a first annular lateral surface of which that faces toward the inner offset surface

constitutes the second axial abutment, and wherein said entraining member includes inner radial projections constituting said first coupling.

18. (Amended) The cylinder lock according to claim 17, wherein said axial extension has a diameter at least behind the annular collar that is greater than a bottom diameter of said annular groove; wherein said radial projections of said entraining member have concave end faces that contact the bottom of the annular groove; and wherein said first radial recess is recessed into said axial extension at least to the bottom of the annular groove [and its] so that a second annular groove lateral surface of the latter that faces toward the output member constitutes the first axial abutment, while said second radial recess is recessed into said axial extension below the bottom of the annular groove and is terminated from one side at the first annular groove lateral surface, while it merges in the opposite direction into a second slip-on groove the bottom of which is spaced from an oppositely situated surface of the axial extension at the maximum by a distance which is equal to the diameter of the bottom of the annular groove.
19. The cylinder lock according the claim 17, wherein the diameter of the axial extension behind the annular collar is at most equal to the diameter of said annular groove; and further comprising a securing member mounted on said axial extension behind said annular collar without any leeway and having an end face constituting said first axial abutment.
20. The cylinder lock according to claim 17, wherein said axial extension has a blind bore; and further comprising a return spring accommodated in said blind bore

Abstract of the Disclosure

A cylinder lock, especially for motor vehicles, includes a cylinder core received in a cylindrical cavity of a housing for turning about an axis and axial displacement between engaged and disengaged positions and equipped with a key channel and spring-loaded tumblers having blocking projections that protrude into a blocking groove unless an appropriate key is fully inserted into the key channel. The cylinder core is coupled with an output member of the cylinder lock when the core is being turned by the appropriate key, and uncoupled therefrom when the cylinder core is turned by a false key or forcibly. The inner cavity of the housing is provided with through-turnable annular grooves bounded by respective ribs at least one of which is interrupted by the blocking groove with the blocking groove being delimited by lateral surfaces that diverge in the direction of axial displacement of the cylinder core toward the disengaged position from the output member.

A cylinder lock, especially for motor vehicles, [comprising a housing (1) in the inner cylindrical cavity of which there is arranged] includes a cylinder core [(2) that is] received in a cylindrical cavity of a housing for turning about an axis and axial displacement between engaged and disengaged positions and equipped with a key channel [(22)] and spring-loaded tumblers [(20, 20'), wherein, when no appropriate key is fully inserted into the key channel (22),] having blocking projections [(201) of the tumblers (20, 20')] that protrude into a blocking groove [(13, 13') formed in a member in which the cylindrical core (2) is supported for turning and, when the] unless an appropriate key is fully inserted into the key channel[, the blocking projections (201) of the tumblers (20, 20') do not extend beyond the periphery of the cylindrical core, wherein the cylinder lock is further provided with means for coupling the cylindrical]. The cylinder core [(2)] is coupled with an output member [(3)] of the cylinder lock when the [cylindrical] core is being turned by the appropriate key, and [for uncoupling of the cylindrical core (2) from the output member (3) of the cylinder lock] uncoupled therefrom when the cylinder core is turned by [means of] a false key or forcibly[, the essence of which resides in that the cylindrical]. The inner cavity of the housing [(1)] is provided with through-turnable annular grooves [(11), and that] bounded by respective ribs at least one [rib (12)] of which [delimits the adjacent through-turnable groove (11) at that axial side that lies opposite to the direction (o) of a disengagement axial displacement of the cylindrical core (2) from the output member (3)] is interrupted by [at least one] the blocking groove [(13), while blocking groove] with the blocking groove being delimited by lateral surfaces [(130, 131)] that diverge in the direction [(o)] of [the disengagement] axial displacement of the cylinder core [(2)] toward the disengaged position from the output member [(3)].

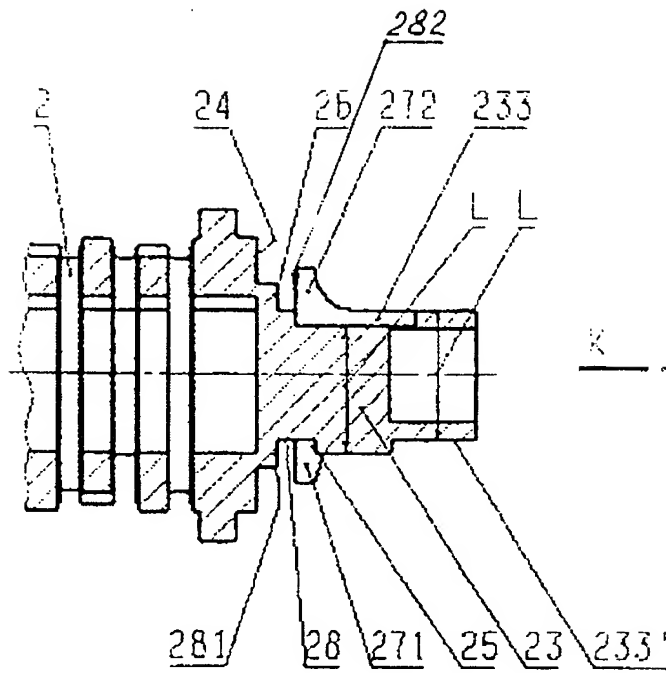


FIG. 10

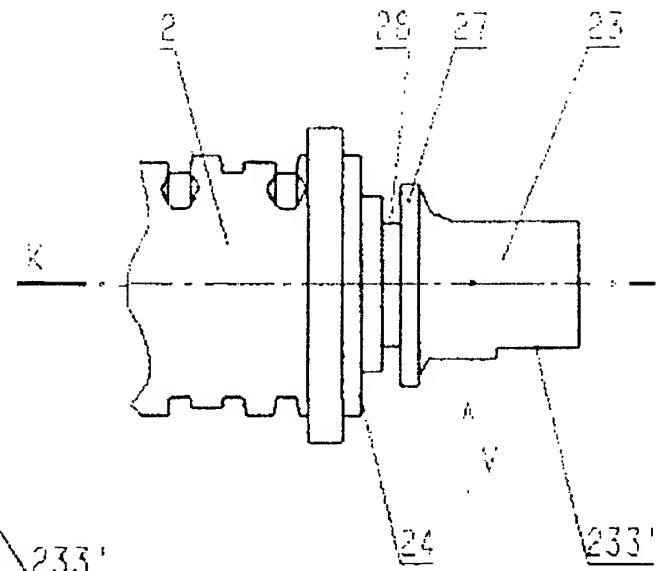


FIG. 11

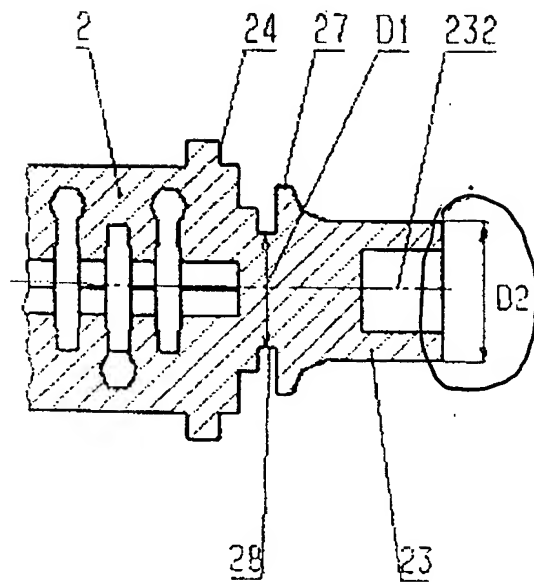


FIG. 12

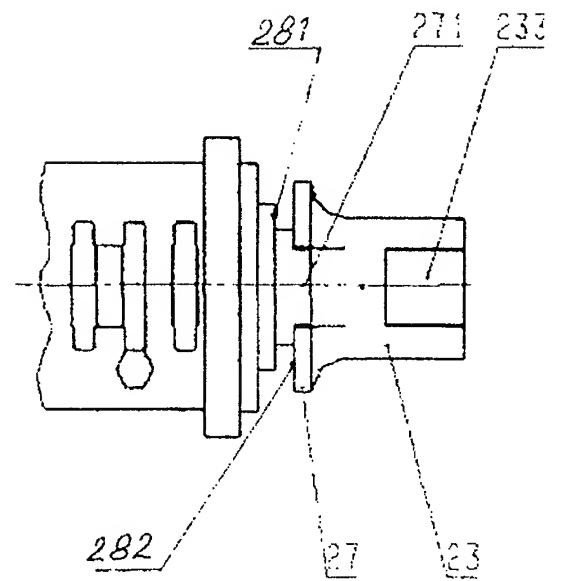


FIG. 13

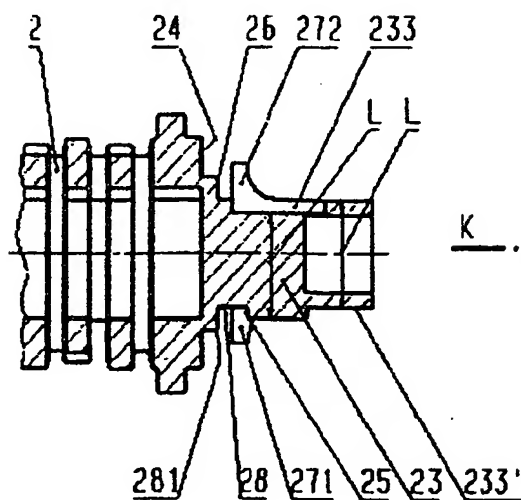


FIG. 10

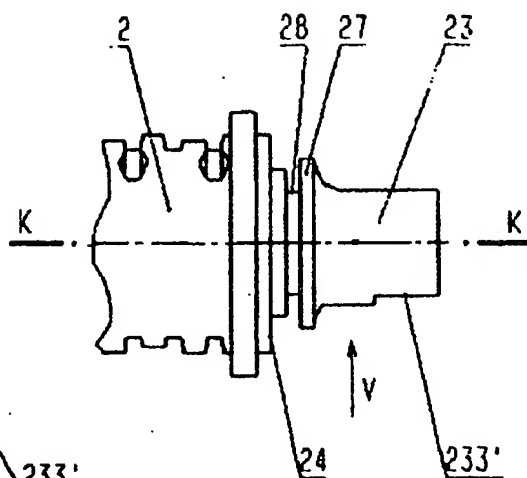


FIG. 11

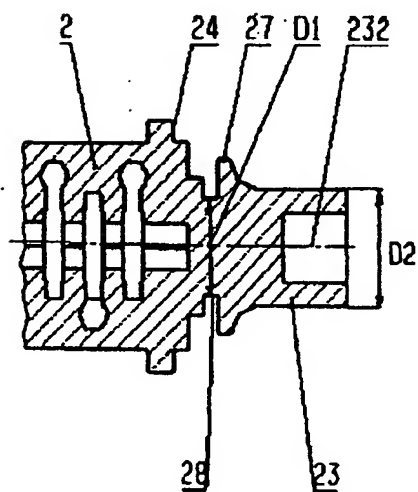


FIG. 12

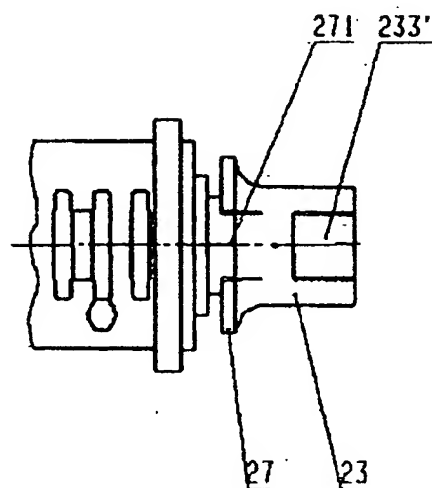


FIG. 13